

Case 3680***Geophilus bonensis* Meinert, 1870 (currently *Gnathoribautia bonensis*; Chilopoda): proposed conservation of the specific name**

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Abstract. The purpose of this application, under Article 23.9.3 of the Code, is to conserve the specific name *Geophilus bonensis* Meinert, 1870 for a species of geophilomorph centipede, currently classified in the genus *Gnathoribautia* Brölemann, 1909. *G. bonensis* is universally considered the valid name for this species after 1963 and it has often been used in past and recent literature; however it is threatened by the long forgotten subjective synonym *Necrophloeophagus punctiventris* Newport, 1844, which has been completely disregarded as a valid name since 1880.

Keywords. Nomenclature; taxonomy; Chilopoda; *Gnathoribautia*; *Geophilus bonensis*; *Necrophloeophagus punctiventris*; *Arthronomalus mandibularis*; *Arthronomalus punctatus*; *Geophilus hirsutus*; geophilomorph centipedes.

1. Newport (1844a) introduced the name *punctiventris* for a new species he described based upon a single specimen collected in Sicily and belonging to the collections of what was at the time the British Museum (now the Natural History Museum, London).

2. Newport (1844a) described *punctiventris* in a binomen with the generic name '*Necrophlaeophagus*', which is obviously a misspelling for *Necrophloeophagus* Newport, 1843. The latter name had been introduced by Newport (1843a, 1843b) as a subgenus of *Geophilus* Leach, 1814 for a single species *Geophilus longicornis* Leach, 1815 (a junior synonym of *Scolopendra flava* De Geer, 1778, currently *Geophilus flavus* (De Geer, 1778)). In later works Newport (1845, 1856) moved *N. punctiventris* to *Arthronomalus* Newport, 1844, another genus also introduced by him (Newport, 1844b, 1844c) for *G. longicornis* Leach, 1815. Subsequently, however, the nominal species *punctiventris* was invariably cited under the genus *Geophilus* by other authors (Gervais, 1847; Fanzago, 1874, 1875, 1880; Fedrizzi, 1876; Pirotta, 1878), following the synonymization of both *Arthronomalus* and *Necrophloeophagus* under *Geophilus* (Gervais, 1847).

3. Newport's original and subsequent description of *N. punctiventris* (Newport, 1844a, 1845, 1856) provided insufficient information on the morphology of the species for the true identity of the latter to be ascertained (e.g. Attems, 1929) and was even misunderstood. To the best of our knowledge, the only further record of *N. punctiventris* (Fanzago, 1875) was actually based on misidentified specimens of *Strigamia crassipes* (C.L. Koch, 1835) from Calabria, as recognized by subsequent authors (Leonardi, 1898; Berlese, 1903). Most other authors ignored the nominal species *N. punctiventris*, which was not further mentioned as valid after Fanzago (1880).

4. The true identity of *N. punctiventris* was eventually clarified by Crabill (1962), who examined the holotype and recognized that it actually belonged to a species known as *Gnathoribautia bonensis* (Meinert, 1870). Newport's accounts fully support Crabill's opinion (Bonato & Minelli, 2014). However, Crabill (1962) deliberately did not replace the name *bonensis* Meinert, 1870 with the senior synonym *punctiventris* Newport, 1844, because he considered the latter as a nomen oblitum (Crabill, 1962: 506). Only Mayr (1963) disagreed with Crabill's reversal of the principle of priority. At the time, Ernst Mayr was a Commissioner and his paper, published in the Journal of Natural History, was nothing but a set of negative comments to applications to the Commission for the reversal of precedence in the presence of nomina oblita. Accordingly, Mayr supported *punctiventris* as the valid name for the species, thus formally breaking a usage dating from 1880. Nevertheless, all subsequent authors followed Crabill (1962) and consistently used *Gn. bonensis* as the valid name in all taxonomic and faunistic publications. *Gn. bonensis* was also maintained as valid in a recent overview of the taxonomy and nomenclature of European geophilomorph centipedes (Bonato & Minelli, 2014) and in all digital databases delivered through the web, including taxonomic catalogues (Minelli, 2006; Minelli & Foddai, 2007) and identification tools (Bonato et al., 2014).

5. Meinert (1870) described *Geophilus bonensis* from near Annaba, Algeria, and the species was repeatedly recorded from other countries in the Mediterranean area, including Sicily (Silvestri, 1898; Berlese, 1903; Minelli & Iovane, 1987). It was first moved to the genus *Pachymerium* C.L. Koch, 1847 by Silvestri (1896); eventually, since Attems (1929), it has been included in the genus *Gnathoribautia* Brölemann, 1909. Moreover, since Attems (1929) *G. bonensis* has been recognized as a senior synonym (and thus the valid name) of the type species of *Gnathoribautia*, which is *Mecistocephalus agricola* Attems, 1900, by original designation. Up to now, *G. bonensis* has been used as valid by at least 12 authors in 13 publications in the last 50 years, over a span of more than 10 years, including original faunistic reports (Minelli, 1983; Minelli & Iovane, 1987; Zapparoli et al., 2004), revisionary catalogues (Foddai et al., 1995, 1996; Borges & Enghoff, 2005; Zapparoli & Minelli, 2005; Enghoff, 2008; Minelli & Zapparoli, 2011), collection catalogues (Ilie et al., 2009), taxonomic monographs (Bonato, 2011; Bonato et al., 2014) and phylogenetic analyses (Bonato & Minelli, 2014).

6. Besides *N. punctiventris*, to the best of our knowledge no other older name is available for *G. bonensis*. Actually, when introducing *G. bonensis*, Meinert (1870) annotated with doubt that his species could be the same of one or two other nominal species previously described from Algeria, namely *Arthronomalus mandibularis* Lucas, 1846 and *Arthronomalus punctatus* Newport, 1846. The same doubt was also expressed by Berlese (1893). However, the original descriptions and illustrations of *A. mandibularis* (see Lucas, 1846a, 1846b) and of *A. punctatus* (see Newport in Lucas, 1846b) are detailed enough to rule out such possibility: major differences of species-specific diagnostic value include the absence of denticles on the forcipules and the presence of claws on the legs of the ultimate pair in *A. mandibularis*, and the general shape of the forcipular coxosternite and denticles in *A. punctatus*. Additionally, a junior synonym of *G. bonensis*, namely *Geophilus hirsutus* Porat, 1871, was adopted by some authors as the valid name for the species (Porat, 1893, 1895; Verhoeff, 1895, 1896, 1898, 1899, 1901, 1902, 1902–25; Attems, 1903, 1927;

Brölemann, 1900a, 1900b, 1909, 1920, 1921, 1932), following the erroneous opinion by Porat (1893) that the original description of *G. bonensis* dated to 1871 whereas that of his *G. hirsutus* dated to 1870. The correct priority between the two names had long remained under discussion (Demange, 1959), although it has been embraced by most authors since Attems (1929), and recently confirmed by publication date information provided by Jeekel (2005). Conversely, *G. hirsutus* has not been cited further as valid since Brölemann (1932).

7. Despite the fact that *N. punctiventris* is a senior synonym of *G. bonensis*, we think that resurrecting the former name would not serve nomenclatorial universality and stability because it has remained unused since 1880, whereas *G. bonensis* is currently in use as the valid name for this species. However, of the two conditions for the reversal of precedence (Article 23.9.1 of the Code), only one is fully met (*N. punctiventris* was not used as valid after 1899; Article 23.9.1.1), whereas the other condition (Article 23.9.1.2) is not fully satisfied (*G. bonensis* has been used as valid in less than 25 publications in the last 50 years, even though by more than 10 authors and encompassing a span of more than 10 years). To maintain stability, we advocate the conservation of *G. bonensis* over *N. punctiventris*.

8. The International Commission on Zoological Nomenclature is accordingly asked:

- (1) to use its plenary power to suppress the specific name *punctiventris* Newport, 1844, as published in the binomen *Necrophloeophagus punctiventris*, for the purposes of the Principle of Priority but not for those of the Principle of Homonymy;
- (2) to place on the Official List of Specific Names in Zoology the name *bonensis* Meinert, 1870, as published in the binomen *Geophilus bonensis*;
- (3) to place on the Official Index of Rejected and Invalid Specific Names in Zoology the name *punctiventris* Newport, 1844, as published in the binomen *Necrophloeophagus punctiventris* and as suppressed in (1) above.

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